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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/824,953

04/14/2004

Robert J. Hatch

030388

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06/28/2006

QUALCOMM INCORPORATED  
5775 MOREHOUSE DR.  
SAN DIEGO, CA 92121

EXAMINER

LE, HOANGANH T

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/824,953

Applicant(s)

HATCH, ROBERT J.

Examiner

HoangAnh T. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 30-32 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-25, 27-29 is/are allowed.
- 6) ☒ Claim(s) 1-9, 13-16, 18, 19 and 26 is/are rejected.
- 7) ☒ Claim(s) 10-12, 17 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Hoanganh Le  
Primary Examiner

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-29 are, drawn to a monopole antenna structure, classified in class 343, subclass 702.
  - II. Claims 30-32 are, drawn to a wireless communications device, classified in class 455, subclass 90.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the claimed limitations in claims 30-32 merely a lap top device without the specificity of the monopole antenna structure. The subcombination has separate utility such as the monopole antenna of claims 1-29 can be used for a different wireless device, not a laptop.
3. Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Kristine Ekwueme on June 16, 2006 a provisional election was made without traverse to prosecute the invention of group I, claims 1-29. Affirmation of this election must be made by applicant in replying to this

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Office action. Claims 30-32 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 6,7,19, and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 6,7,19 and 26, what is meant by "x and y"?

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-8, 13-16 and 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Ihara et al (the US Patent No. 5,872,546).

Regarding claim 1, the Ihara et al reference teaches in figure 4 a wireless communication device comprising: monopole antenna, wherein the monopole antenna further comprises: a counterpoise 50; a poise 12 comprising a conductor having first and second edges, the first edge having a first taper extending from the counterpoise to the second edge, and the second edge having a straight edge or a second taper different from the first taper, and a transmission line 31 connected to the poise 12.

Regarding claim 2, wherein the first tapered edge is convex (figure 4).

Regarding claim 3, wherein the first tapered edge 11a is concave (figure 6).

Regarding claim 4, wherein the conductor comprises a quarter ellipse (figure 29C).

Regarding claim 5, wherein the quarter ellipse comprises a quarter circle (figure 29C).

Regarding claim 6, wherein the first tapered edge has a taper defined by  $y = 1/(m \cdot x)$ , where m is any number (since the conductor is a ellipse).

Regarding claim 7, wherein  $m = 1, 4$  or  $8$  (figure 6).

Regarding claim 8, wherein the poise is folded (figures 16 and 23).

Regarding claim 13, Ihara et al teaches in figure 16 a wireless communication device comprising: a monopole antenna, wherein the monopole antenna further comprises: a counterpoise 50; a poise comprising first 11 and second conductors 61, the first conductor 11 having first and second edges, the first edge having a first taper

extending from the counterpoise to the second edge, and the second edge having a straight edge or a second taper different from the first taper; and a transmission line 31 connected to at least one of the first and second conductors.

Regarding claim 14, wherein the poise is folded (figure 20).

Regarding claim 15, wherein the second conductor is linear (figure 22).

Regarding claim 16, wherein the first conductor comprises a quarter ellipse (figure 29C).

Regarding claim 18, wherein the second conductor 11(2) comprises a first and second edge, the first edge of the second conductor having a first taper extending from the counterpoise to the second edge of the second conductor, and the second edge of the second conductor having a straight edge or a second taper different from the first taper of the second conductor (figure 15).

Regarding claim 19, wherein the first tapered edge of the first and second conductors each has a taper defined by the  $y=1/(m*x)$ , where  $m$  is any number (since the first and second conductors are ellipses).

10. Claims 1-3,9 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Okado (the US 2004/0100406).

Regarding claim 1, the Okado reference teaches in figure 1A a wireless communication device comprising: monopole antenna, wherein the monopole antenna further comprises: a counterpoise 2; a poise 1 comprising a conductor having first and second edges, the first edge having a first taper extending from the counterpoise to the

second edge, and the second edge having a straight edge or a second taper different from the first taper, and a transmission line 3 connected to the poise 1.

Regarding claim 2, wherein the first tapered edge is convex (figure 1A).

Regarding claim 3, wherein the first tapered edge is concave (figure 22B1).

Regarding claim 9, wherein the poise further comprises a substrate, the conductor being deposited on the substrate (figure 16).

Regarding claim 13, Okado teaches in figure 22I a wireless communication device comprising: a monopole antenna, wherein the monopole antenna further comprises: a counterpoise 1011; a poise comprising first 1014 and second conductors 1014a, the first conductor 1014 having first and second edges, the first edge having a first taper extending from the counterpoise to the second edge, and the second edge having a straight edge or a second taper different from the first taper; and a transmission line connected to at least one of the first and second conductors.

### ***Allowable Subject Matter***

11. Claims 10-12, 17 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claims 21-25 and 27-29 are allowed.

13. Claim 26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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14. The following is a statement of reasons for the indication of allowable subject matter: none of the cited art discloses that the substrate with the conductor deposited thereon is folded, or the first and second conductors being deposited on the substrate, and wherein the substrate with the first and second conductors deposited thereon is folded into a 3/4 rectangular channel, or wherein the  $m=4$  for the first tapered edge of the first conductor and  $m=8$  for the first tapered edge of the second conductor, or the the poise have a maximum length of 2 inches, a maximum width of 0.625 inches and a maximum height of 0.3 inches, the poise further having a first bandwidth that includes a frequency range of 1575 - 2170 MHz and a second bandwidth that includes a frequency range of 824 - 960 MHz.

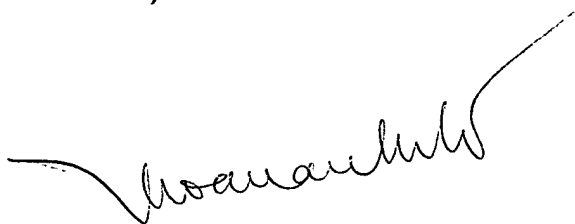
15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HoangAnh T. Le whose telephone number is (571) 272-1823. The examiner can normally be reached on 8:00am-4:30pm.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Hoanganh Le', with a long, sweeping horizontal line extending to the left and a vertical line extending upwards to the right.

**Hoanganh Le**  
**Primary Examiner**